IN THE CLAIMS

Please amend the claims as follows:

1. (*Currently amended*) An image processing unit, comprising:

an A/D converter for carrying out A/D conversion of image signals output from an image pickup apparatus that picks up an image an converts it into electrical signals, and for outputting A/D converted image signals as image data;

a fixed length coding circuit for dividing the image data into unit blocks, each comprising a predetermined number of pixels, and for coding the pixels in each unit block after obtaining an average level of the pixels in the unit block, wherein a length of the code output from the fixed length coding circuit is fixed and the code is non-orthogonal to the image data; and

an exposure controller for calculating a luminance level of a whole set of pixel data in the unit blocks by integrating the average levels of the unit blocks, and for controlling exposure of the image pickup apparatus such that the luminance level of the image data matches a predetermined level.

2. (*Original*) The image processing unit according to claim 1, further comprising a coded image memory for storing fixed length coded data output from the fixed length coding circuit, the fixed length coded data including the average levels of the unit blocks.

3. (*Original*) The image processing unit according to claim 2, further comprising a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, for calculating a luminance level of the image data from the average levels, and for carrying out fixed length decoding of the fixed length coded data with performing gain correction for adjusting the luminance level of the image data to a predetermined level.

4. (*Original*) The image processing unit according to claim 2, further comprising:

a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, and for carrying out fixed length decoding of the fixed length coded data; and

a signal processor for carrying out, using the average levels, gain correction of image data output from said fixed length decoding circuit.

5. (*Currently amended*) An image processing unit, comprising:

an A/D converter for carrying out A/D conversion of image signals output from an image pickup device that picks up an image an converts it into electrical signals including a plurality of color

components, and for outputting A/D converted image signals as image data;

a pixel rearrangement circuit for sorting the image data output from said A/D converter such that each color component is arranged in a unit block, each of which comprises a predetermined number of pixels; and

a fixed length coding circuit for for coding the pixels in each unit block after obtaining an average level of the pixels in the unit block, wherein a length of the code output from the fixed length coding circuit is fixed and the code is non-orthogonal to the image data.

6. (*Original*) The image processing unit according to claim 5, further comprising an exposure controller for calculating a luminance level of a whole set of pixel data in the unit blocks by integrating the average levels of the unit blocks, and for controlling exposure of the image pickup apparatus such that the luminance level of the image data matches a predetermined level.

7. (*Original*) The image processing unit according to claim 5, further comprising signal level correction means for correcting, using the average levels of the unit blocks, relative signal levels of the respective color components.

8. (*Original*) The image processing unit according to claim 7, further comprising a coded image memory for storing fixed length coded data including the average level of each unit block, the fixed length coded data being output from the fixed length coding circuit.

9. (*Original*) The image processing unit according to claim 8, wherein said signal level correction means reads from said coded image memory the average levels, calculates from the average levels luminance levels of the pixel data in the unit blocks of the respective color components, and corrects signal levels of the color components such that the luminance levels of the color components match with each other.

10. (*Original*) The image processing unit according to claim 8, further comprising a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, and for carrying out fixed length decoding of the fixed length coded data with performing gain correction for adjusting, for each color component, the luminance level of the image data to a predetermined level by using the average levels.

11. (*Original*) The image processing unit according to claim 8, further comprising:

a fixed length decoding circuit for reading from said coded image memory the fixed length coded data, and for carrying out fixed length decoding of the fixed length coded data; and

a signal processor for carrying out, for each color component, signal level correction of image data output from said fixed length decoding circuit by using the average levels.

12. (*Original*) The image processing unit according to claim 1, further comprising selecting means for selecting a number of the unit blocks.

13. (*Original*) The image processing unit according to claim 1, further comprising selecting means for selecting a location of the unit blocks.

14. (*Original*) The image processing unit according to claim 1, further comprising selecting means for selecting the unit blocks in accordance with their average levels.

15. (*Original*) The image processing unit according to claim 7, further comprising selecting means for selecting a number of the unit blocks.

16. (*Original*) The image processing unit according to claim 7, further comprising selecting means for selecting a location of the unit blocks.

17. (*Original*) The image processing unit according to claim 7, further comprising selecting means for selecting the unit blocks in accordance with their average levels.

18. (*Currently amended*) An image processing method of reproducing a picked-up still image, said method comprising the steps of:

carrying out A/D conversion of image signals output from an image pickup apparatus, and for outputting A/D converted image signals as image data;

dividing the image data into unit blocks, each comprising a predetermined number of pixels, and coding the pixels in each unit block after obtaining an average level of the pixels in the unit block, wherein a length of the code is fixed and the code is non-orthogonal to the image data; and

calculating a luminance level of a whole set of pixel data in the unit blocks by integrating the average levels of the unit blocks, and controlling exposure of the image pickup apparatus such that the luminance level of the image data matches a predetermined level.

19. (*Currently amended*) An image processing system, comprising:

an A/D converter configured to convert analog image signals into corresponding digital image data; and

a fixed length coding circuit configured to receive the digital image data as a plurality of blocks and output a code corresponding to each block, wherein a size of the blocks is predetermined and a length of the code output for each block is fixed and the code is non-orthogonal to the image data.

20. (*Previously presented*) The image processing system of claim 19, wherein the code output by the fixed length coding circuit includes at least one of average intensity value of pixels within the block, grey scale indicator of the block, and quantization levels of the pixels within the block.

21. (*Previously presented*) The image processing system of claim 20, further comprising a pixel rearrangement circuit configured to sort each color component of the pixels into the plurality of blocks and wherein the code fixed length coding circuit includes at least one of average intensity values of each color component and quantization levels of the color components of the pixels.

22. (*Previously presented*) The image processing system of claim 20, further comprising a system controller is configured to control an exposure of an image pickup apparatus based on the code.

23. (*Previously presented*) The image processing system of claim 22, wherein the system controller is configured to calculate a luminance level of the digital image data based on the average intensity values of the plurality of blocks, wherein the system controller is configured to control the exposure of the image pickup apparatus based on the calculated luminance level.

24. (*Currently amended*) A method for processing images, comprising:

converting analog image signals into corresponding digital image data;

dividing the digital image data into a plurality of blocks, wherein a size of the blocks is predetermined; and

coding each block of the digital image data, wherein a length of the code is fixed and the code is non-orthogonal to the image data.

25. (*Previously presented*) The method of claim 24, wherein the step of coding each block comprises at least one of:

calculating average intensity value of pixels of the block,

calculating a grey scale indicator of the block; and

determining quantization level of each pixel of the block.

26. (*Previously presented*) The method of claim 25, wherein the step of calculating the average intensity value comprises:

determining maximum and minimum intensity pixel values of the block;

determining a predetermined number of intensity division ranges based on the maximum and minimum intensity pixel values;

determining an average intensity pixel value of a highest division range and an average intensity pixel value of a lowest division range; and

adding the average intensity pixel values of the highest and lowest division ranges and dividing by two.

27. (*Previously presented*) The method of claim 25, wherein the step of calculating the grey scale indicator comprises:

determining maximum and minimum intensity pixel values of the block;

determining a predetermined number of intensity division ranges based on the maximum and minimum intensity pixel values;

determining an average intensity pixel value of a highest division range and an average intensity pixel value of a lowest division range; and

substracting the average intensity pixel value of the lowest division range from the average intensity pixel value of the highest division range.

28. (*Previously presented*) The method of claim 25, wherein the step of calculating the determining quantization level of each pixel comprises:

determining maximum and minimum intensity pixel values of the block;

determining a predetermined number of intensity division ranges based on the maximum and minimum intensity pixel values; and

for each pixel, determining which intensity division range the pixel belongs.

29. (*Previously presented*) The method of claim 24, further comprising sorting each color component of the pixels into the plurality of blocks and wherein the code fixed length coding circuit includes at least one of average intensity values of each color component and quantization levels of the color components of the pixels.

30. (*Previously presented*) The method of claim 25, further comprising:

calculating a luminance level of the digital image data based on the average intensity values of the plurality of blocks; and

controlling an exposure of the image pickup apparatus based on the calculated luminance level.

31. (*Previously presented*) The method of claim 30, further comprising:

calculating a gain correction coefficient needed to correct the luminance level of the digital image data to a predetermined luminance level; and

adjusting the luminance level of the digital image data based on the gain correction coefficient.

32. (*Previously presented*) The image processing unit according to claim 1, wherein the length of the code output from the fixed length coding circuit is fixed for each unit block.

33. (*Previously presented*) The image processing unit according to claim 32, comprising:

a fixed length decoding circuit for decoding the image data by decoding each fixed length code for each unit block coded by the fixed length coding circuit; and

a signal processing circuit for performing signal processing on the decoded image data.

34. (*Previously presented*) The image processing unit according to claim 5, wherein the length of the code output from the fixed length coding circuit is fixed for each unit block.

35. (*Previously presented*) The image processing unit according to claim 34, comprising:

a fixed length decoding circuit for decoding the image data by decoding each fixed length code for each unit block coded by the fixed length coding circuit; and

a signal processing circuit for performing signal processing on the decoded image data.

36. (*Previously presented*) The image processing method according to claim 18, wherein the length of the code is fixed for each unit block.

37. (*Previously presented*) The image processing method according to claim 36, comprising:

decoding the image data by decoding each fixed length code for each unit block; and

signal processing on the decoded image data.

38. (*Previously presented*) The method according to claim 24, wherein the length of the code is fixed for each unit block.

39. (*Previously presented*) The image processing method according to claim 38, comprising:

decoding the image data by decoding each fixed length code for each unit block; and

signal processing on the decoded image data.

40. (*Currently amended*) An image processing unit, comprising:

a fixed length decoding circuit for decoding an image data that has been coded by dividing the image data into a plurality of unit

blocks and encoding each unit block, wherein each unit block comprises a predetermined number of pixels, and wherein a length of code for each unit block is fixed and the code is non-orthogonal to the image data; and

a signal processing circuit for performing signal processing on the image data decoded by the fixed length decoding circuit.